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#### **(54) METHOD FOR CONTROLLING UP LINK PACKET TRANSMISSION IN RADIO COMMUNICATION SYSTEM**

(57)Abstract:

PROBLEM TO BE SOLVED: To reduce interference and to optimize the use of resource by calculating the maximum transmission rate of a user device on an up link, realizing multi-address communication to a user device and permitting the user device to transmit data at a rate lower than the maximum transmission rate which received last in a network.

$$SF_{min} = SF_{packet} \cdot 2^{1+L \cdot (\ln(\text{active users} - 1) / \ln(2))}$$

SOLUTION: The base station controller of a UMTS radio access network(UTRAN) based on universal mobile telephone service(UMTS) specification formed of a CDMA system refers to the interference level of a previous frame and calculates transmission rate SFpacket allocated to a packet user device (UE). An expression decided based on statistics where all UE uniformly share resource is used with the total number of UEs using the resource of the up link as active users, maximum transmission rate SFmin with respect

to UE is calculated and multi-address communication is executed to the UE. The UE selects an optimum transport format combination based on it.